

# PATENT ABSTRACTS OF JAPAN

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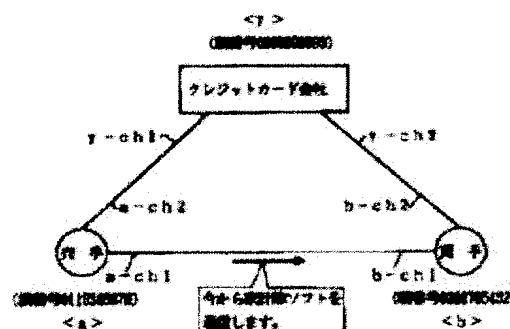
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## (54) ON-LINE ACCOUNTS SETTLEMENT METHOD FOR COMMUNICATION NETWORK

(57)Abstract:

PURPOSE: To prevent the disputes that are easily caused after transactions in regard of the validity of the buying/selling transactions by confirming these transactions between the buyer and the seller via a neutral financial institution.

CONSTITUTION: A single contract subscriber line includes at least two independent speech channels, and a seller user, a buyer user and a financial institution are connected together at three points via an ISDN network having the outgoing subscriber telephone number notifying function. When the buying/selling negotiation is agreed between the buyer and seller users, the seller user calls the financial institution by means of another idle speech channel to make an inquiry about the credit of the buyer user with a speech channel kept connected to the buyer user as it is. The financial institution checks the credit of the buyer user in response to the request of the seller user about the entry or non-entry of the buyer's name in a blacklist, the usable limit amount, the balance of the credit transactions, etc., and reports these check results to the seller user. Meanwhile the buyer user answers the confirmation given from the financial institution about the payment.



## H8-96034 CLAIMS

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[Claim(s)]

[Claim 1] It is a payment method accompanying article dealing or information dealing in a communication network where two or more user terminals were connected via an ISDN network which has two or more independent message channels, and was provided with an addresser telephone number notice function into a one contract subscription line, When a seller user and a buyer user performed a telephone call about dealing negotiation, using a message channel in a one contract subscription line one channel and negotiation was materialized, a seller user has connected a message channel with a buyer user. Call a correspondent financial institution using another intact message channel, tell a financial institution about information for specifying a buyer user including a buyer user's ISDN network number acquired with the addresser telephone number notice function of an ISDN network at the time of said dealing negotiation, and a buyer user's credit inquiry is made, While a financial institution reports an inquiry result about a buyer user to a seller user, when an inquiry result that a buyer user has solvency comes out, According to said ISDN network number, call a buyer user through a buyer user's intact message channel, and ask for an intention check of payment, and a buyer user answers about existence of an intention paid to an intention check from a financial institution, with a message channel with a seller user connected, At the same time it performs a payment immediately between a buyer user and a seller user, when a financial institution is [ a buyer user's answer result ] "with a payment intention", Perform a report of the completion of payment to a seller user, and another side and in "paying and having no intention", without performing a payment between a buyer user and a seller user, An online payment method in a communication network which settles accounts between a buyer user and a financial institution after telling a seller user about that and ending a payment between a buyer user and a seller user.

[Claim 2] An online payment method in the communication network according to claim 1 which uses only an ISDN network number as a buyer user's personal identification information.

[Claim 3] An online payment method in the communication network according to claim 2 which keeps secret an addresser telephone number incorporated into a seller user's terminal with the addresser telephone number notice function of an ISDN network to a seller user.

[Claim 4] An online payment method in the communication network according to any one of claims 1 to 3 which uses INS net 64 which has two message channels with an access speed of 64K bits per second, and has one signal channel with an access speed of 16K bits per second as an ISDN line network.

[Claim 5] A center in which a host computer was installed mainly bears only a function as a place in which each user meets, An online payment method in the communication network according to any one of claims 1 to 4 which becomes considering a communication network the users which met through the center concerned leave a host computer, and it was made to communicate directly between users as an applied object.

[Claim 6] Between a buyer user, a seller user, and 3 persons of a financial institution is connected with an ISDN line network which has at least two independent message channels, An online payment method in the communication network according to any one of claims 1 to 5 where three-point attitude cocurrent connection of between a buyer user, a seller user, and 3 persons of a financial institution is carried out.

[Claim 7] An online payment method in the communication network according to any one of claims 1 to 6 where a buyer user requests a self credit guarantee from a financial institution instead of a seller user requesting a buyer user's credit inquiry from a financial institution.

JP-A-8-96034

(54) [TITLE OF THE INVENTION] ON-LINE SETTLEMENT METHOD IN  
COMMUNICATION NETWORK

(57) [ABSTRACT]

[OBJECT] The invention provides a method for making real-time  
settlement of payment associated with sales of goods or sales  
of information dealt with online in a communication network.

[CONFIGURATION] A characteristic of an ISDN line having plural  
independent call channels in one subscriber line and a caller  
number notification function is utilized, and a line to a  
financial institution that is of a fair third party is connected  
to ask a credit reference and payment using a remaining call  
channel during connection of a call channel between a seller  
user and a buyer user. Therefore, the financial institution  
is caused to authenticate the trade between the seller user and  
the buyer user.

(NETWORK NUMBER 0999999999)

CREDIT CARD COMPANY

SELLER

(NETWORK NUMBER 0112345678)

HOUSEHOLD ACCOUNT SOFTWARE IS TRANSMITTED FROM NOW.

BUYER

(NETWORK NUMBER 0998765432)

[DETAILED DESCRIPTION OF THE INVENTION]

[0001]

[INDUSTRIAL FIELD OF APPLICATION] The present invention relates to a method for making real-time settlement of payment associated with sales of goods or sales of information dealt with online on a communication network in which user terminal devices are mutually connected using an ISDN line, particularly to a method for making real-time settlement of payment associated with sales of goods or sales of information directly dealt with between user terminals on a user-driven type communication network.

[0002]

[PRIOR ART] Currently, personal-computer communication is deeply permeating society. Conventionally, the personal-computer communication is conducted through a communication network system in which personal computers distributed in various parts of the country are connected to a host machine installed in a center through a communication line. Currently, there are many communication network systems. Most of them use a public telephone line network as the communication line, and sometimes an Integrated Services Digital Network (hereinafter abbreviated as ISDN) is used as the communication line.

[0003] However, the communication network systems basically have a configuration in which a host computer is installed in the center, and the communication between the users is necessarily conducted through the host computer. Therefore,

a scale enlargement of the host computer is always required to meet an increase of the number of users or an amount of information handled by the individual user, which results in a problem in that large cost is required to maintain facilities of the center. Because of the structure in which all the pieces of information are necessarily temporarily stored in the host machine or transferred through the host machine, an intention of a center operator inevitably reflects the handling information, which results in a problem in that possibly the information is controlled or an intention of the user is corrupted.

[0004] In the conventional personal-computer communication, because the general-purpose personal computer is used as the user terminal, an operation is complicated, unfortunately a child or an aged person hardly handles the user terminal, and a complicated operation is further required to transmit and receive sound information and image information.

[0005] The inventor already proposes a new communication network system, filed as Japanese Patent Application Laid-Open No. 6-189708, which solves the problems with the conventional personal-computer communication. In the communication network system of Japanese Patent Application Laid-Open No. 6-189708, a relationship between the user and the center is fundamentally reviewed, and the communication network can be defined as a user-driven type network system while the conventional communication network system is defined as a center-centered network. As illustrated in FIG. 1, one of features of the communication network system of Japanese Patent application No.

H6-189708 is that only a center x located in the center of users a, b, c, ... provides a site in which the user meets together and the users (in FIG. 1, user a and user b) directly conduct communication with each other after the meeting while being separated from the center x. In the new system, the center x does not intervene in the communication between the user terminals. Thus, a small amount of information is enough to be stored in the center x, and the distributed information is not corrupted by the intention of the center operator, which allows the users to freely transmit and receive the fresh information to and from each other. Japanese Patent Application Laid-Open No. 6-189708 also proposes a dedicated user terminal device that corresponds with the communication mode of the new system. The terminal device has a function of being able to easily handle image information and sound information. Additionally, for an operation of the terminal device, unlike the conventional personal-computer communication, advantageously the terminal device can be controlled only by operating a mouse or a pad according to instruction contents on a display screen without operating a keyboard. Although the inventor proposes a technique of being able to solve the problems with the conventional personal-computer communication, there are other problems to be solved in the conventional personal-computer communication. For example, one of the important problems is how the settlement of payment in the sales of goods or sales of information dealt with on the communication network is rapidly and correctly made.

[0006] Conventionally, examples of the method for making the settlement of payment include a method in which a registered mail is used, a method for transferring cash to an account of the party through a bank or a post office, and a method in which a credit card is used. The settlement of payment is frequently made using the credit card from the viewpoint of convenience. In shopping with the credit card, the payment of goods ordered online is instructed online. The credit card payment is extremely convenient because the settlement of payment can be made online without going to the bank or post office. The payment instruction is performed by inputting a name, an address, and a credit card number of the user after the credit card of the user is specified. In the case of a small amount of payment, the payment and a use fee for the communication network are collectively withdrawn from the specified account. In such cases, because ID and a password used to access the network can be regarded as the credit card number, it is not necessary to input the credit card number. However, as described above, it is necessary to input the kind of the credit card and the name, the address, and the credit card number of the user.

[0007]

[PROBLEM TO BE SOLVED BY THE INVENTION] However, there are problems in the credit card payment. First, it is necessary to make an inquiry about a balance or validity of the input credit card number to a credit card company. Therefore, unfortunately it takes a long time to complete the payment, and it takes several days to deliver goods shipped after the confirmation of the

payment to the user by home-delivery service or mail. When the sold or bought goods are not a material goods but a software program, although program data can delivered in real time through the communication line, the software program is provided in the form of floppy disk because the secure payment is not always performed after the program data is transmitted. There is also a method for transmitting only a demonstration version having limited capability through the communication line and supplying a right version in the form of floppy disk after the confirmation of the payment. Further, there is also adopted a method for in which, although the program data of the right version is transmitted through the communication line, a functional limitation is applied to the program data and is released after the confirmation of the payment.

[0008] However, in the methods, there is a time lag in buying and selling negotiation on the network, work for confirming the payment off-line, delivery of goods after the confirmation of the payment, and work for transmitting a functional limitation releasing password. Therefore, the buying and selling negotiation on the network, the work for confirming the payment off-line, the delivery of goods after the confirmation of the payment, and the work for transmitting a functional limitation releasing password cannot collectively be processed, but currently many troubles and times are required.

[0009] The problems are raised in not only the conventional center-centered communication network but also the user-driven type communication network newly proposed by the inventor.



Particularly, in the newly proposed user-driven type communication network, there is raised another problem. That is, in the user-driven type communication network, because the center does not intervene in the trade between the users, the trade is performed on user's own responsibility. At this point, controversially there is no fixed rule on the mercantile trade. Accordingly, it is necessary to guarantee correct performance of both the shipment of the seller and the payment of the buyer in a certain form. For example, a trouble that the payment is not made although the shipment is performed or a trouble that the payment is made although the shipment is not performed is easy to be raised. It is necessary to prevent the troubles. It is also necessary to prevent default in which the fact of the achievement of the negotiation is denied to reject the shipment or payment although the buying and selling negotiation is achieved once.

[0010] In view of the foregoing, the invention provides a method for making real-time settlement of payment associated with sales of goods or sales of information dealt with online on a communication network in which user terminal devices are mutually connected using an ISDN line, particularly a method for making real-time settlement of payment associated with sales of goods or sales of information directly dealt with between user terminals on a communication network in which mainly users conduct communication with each other.

[0011]

[MEANS FOR SOLVING THE PROBLEM] The inventor have thought that

the problems can be solved when the features of the ISDN line, that is, the ISDN line having the plural independent call channels in one subscriber line and the caller number notification function is actively utilized while the fair third party intervenes between the users in achieving the buying and selling negotiation. The invention completed based on the idea has the following contents.

[0012] A method for making settlement of payment associated with sales of goods or sales of information dealt with online on a communication network in which plural user terminals are connected through an ISDN line having plural independent call channels in one subscriber line and a caller number notification function, the online payment method on a communication network includes: placing a telephone call about buying and selling negotiation by a seller user and a buyer user using one channel of the call channels in one subscriber line; calling up a financial institution by the seller user using another reserved call channel while the call channel with the buyer user is connected, when the negotiation is achieved; conducting credit reference of the buyer user by notifying the financial institution of information for specifying the buyer user including a buyer user ISDN number obtained by the caller number notification function of the ISDN during the buying and selling negotiation; notifying the seller user of the reference result of the buyer user by the financial institution, calling the buyer user through the reserved call channel of the buyer user according to the ISDN number to make an inquiry to confirm payment intention when the

reference result that the buyer user has paying capability is obtained; answering the payment intention for the confirmation of the payment intention from the financial institution by the buyer user while the call channel with the seller user is connected; notifying the seller user of payment completion by the financial institution while instantaneously guiding the settlement of payment between the buyer user and the seller user when the answer result is that "the buyer user is willing to make payment", and notifying the seller user that the buyer user is not willing to make payment without making the settlement of payment between the buyer user and the seller user when the answer result is that "the buyer user is not willing to make payment"; and making the settlement of payment between the buyer user and the financial institution after the settlement of payment is made between the buyer user and the seller user.

[0013] The credit card number, ID used to access the communication network, and the password can be combined at the same time as the ISDN number is used in order to authenticate the buyer user. Alternatively, only the ISDN number may be used.

[0014] When the ISDN number is used as the unique information for authenticating the user, it is necessary to keep a secret of the caller number captured in the terminal of the seller user by the caller number notification function from the seller user.

[0015] INS net 64 (registered trademark of Nippon Telegraph and Telephone Corporation) including two call channels having a transmission rate of 64 Kbit/s and one signal channel having a transmission rate of 16 Kbit/s can be used as the ISDN line.

[0016] The online payment method of the invention can be applied to the conventional center-centered communication network. However, particularly the online payment method of the invention can be applied to the communication network in which mainly the users directly conduct the communication, that is, the communication network, in which the center where the host computer installed mainly acts only as the site in which the user terminals meet together and the user terminals meeting together through the center directly conduct the communication while being separated from the center.

[0017] The buyer user, the seller user, and the financial institution are connected through the ISDN line having at least two independent communication channels, and preferably the buyer user, the seller user, and the financial institution are simultaneously connected.

[0018] The seller user asks the financial institution to conduct the credit check of the buyer user. Alternatively, the buyer user occasionally asks the financial institution to conduct the credit check of the buyer user.

[0019]

[ACTION] The online payment method of the invention is realized by connecting the three points, that is, the seller user, the buyer user, and the financial institution through the ISDN having at least two independent call channels in one subscriber line and the caller number notification function. The financial institution includes financial institutions, such as a securities company and an insurance company, which possibly break

into a banking business in addition to the credit card company, the bank, and the consumer loans. When the selling and buying negotiation is achieved between the seller user and the buyer user, the seller user calls the financial institution to conduct the credit reference of the buyer user using another reserved call channel while the call channel with the buyer user is connected. The ISDN number of the buyer user automatically captured in the terminal of the seller user in connecting the channel during the selling and buying negotiation is used as the main information for specifying the buyer user. As to the information for specifying the buyer user, the credit card number, the account number, the ID used to connect the communication network, and the password can concurrently be used in addition to the ISDN number. Because the buyer user ISDN number, the credit card number, the ID, and the password are highly-confidential information, it is necessary to obtain the information from the buyer user to transfer the information to the financial institution while the terminal device of the seller user is concealed from the seller user. The credit card number, the account number, the ID, and the password are not required when the buyer user ISDN number is registered in the financial institution. The buyer user ISDN number is a unique number that is attached to the subscriber line drawn in the user's house, and the terminal device automatically transmits the ISDN number. Therefore, the buyer user ISDN number cannot be corrupted. In order to use the ISDN number of another person, there is no way except the method for sneaking into another person's house in

which the subscriber line to which the ISDN number is attached is drawn. Therefore, the ISDN number has extremely high reliability as means for specifying the buyer user. The buyer user is called from the financial institution using the ISDN number that is transmitted to the financial institution through the terminal of the seller user, thereby confirming again that the ISDN number is matched with the buyer user ISDN number.

[0020] Upon the inquiry from the seller user, the financial institution conducts the credit check mainly including the existence of the buyer user on a blacklist, a maximum limitation, and a balance, and informs the seller user of the result of the credit check. When the result that "the buyer user does not have the paying capability" is obtained, the seller user is notified that the buyer user does not have the paying capability. Occasionally, the buyer user is also notified if needed. The seller user ISDN number is obtained by the caller number notification function, and the buyer user ISDN number is obtained through the terminal device of the seller user. Therefore, it is not necessary for the seller user or the buyer user to perform a special operation in order to notify the financial institution of the network number of the seller user or the buyer user. On the other hand, when the result that "the buyer user has the paying capability" is obtained, the financial institution calls the buyer user according to the ISDN number. The authenticity of the buyer user ISDN number obtained through the seller user is confirmed again by the calling operation. Because one of the call channels connected to the buyer user is already connected

to the seller user, the remaining call channel is used in connecting the line with the financial institution.

[0021] The buyer user answers whether the payment is allowed in response to the inquiry to confirm the intention of the payment from the financial institution. At this point, the trade between the seller and the buyer is certificated by the financial institution that is of the fair third party to generate an effect that eliminates a room in which the seller and the buyer contend about the effectiveness of the selling and buying negotiation later. When the answer result obtained from the buyer user is that "the buyer user has the intension of the payment", the financial institution notifies the seller user of the payment completion while instantaneously making the settlement of payment between the buyer user and the seller user. On the other hand, when "the buyer user does not have the intension of the payment", the financial institution notifies the seller user of that the buyer user does not have the intension of the payment without making the settlement of payment between the buyer user and the seller user. When the call channel used to make the inquiry of the credit reference from the seller user to the financial institution is continuously connected without interruption, the financial institution notifies the seller user of the result through the continuously connected call channel. When the call channel used to make the inquiry of the credit reference from the seller user to the financial institution is tentatively disconnected, the connection is established again to notify the seller user of the result. At this point, there

is no problem even if the call channel between the financial institution and the buyer user is disconnected.

[0022] The seller user that receives the notification from the financial institution explains a procedure of shipment through the call channel connected to the buyer user, and the entire communication is completed. When goods are the software program or various kinds of data, the software program or various kinds of data are instantaneously transferred to the buyer user through the currently connected call channel. The settlement of payment is made between the buyer user and the financial institution after the settle of payment is made between the seller user and the buyer user. For the credit card company, the expense paid to the seller user is subtracted from the balance (committed line of credit), and the total amount of payment of the credit card in the month is paid on the due date of the next month. Occasionally, the due date is an alternate month or a bonus month. On the other hand, when the financial institution is a bank, the expense paid to the seller user is subtracted from the deposit balance. It is not always necessary to simultaneously open the call channel between the seller user and the financial institution and the call channel between the financial institution and the buyer user. However, when the credit reference is instantaneously completed in the financial institution, preferably the trouble and time of calling the party again can be saved when both the call channels are opened.

[0023]

[EMBODIMENT] The invention will be described in detail based



on the illustrated embodiment. FIG. 2 illustrates an outline of a cable used in INS net 64 that is a kind of ISDN line. Two call channels 2 and 2 and one signal channel 3 are incorporated in the cable. The call channels 2 and 2 are called a B-channel, and each of the call channels 2 and 2 corresponds with a transmission rate of 64 Kbit/s. The signal channel 3 is called a D-channel and corresponds with a transmission rate of 16 Kbit/s. Each of telephone sets 4 and 4 can be connected to the B-channel. In addition to a digital telephone set, an existing analog telephone set can be connected as the telephone set 4. In the standard of the cable, the two B-channels 2 and 2 can independently be used as the call channel, and telephone calls can be placed with different parties. The B-channels 2 and 2 have a caller number notification function of displaying a telephone number of the called party on a telephone set or a terminal device or of storing the telephone number in a storage circuit. It is assumed that the ISDN line having the plural call channels in one subscriber line and the caller number notification function is used in the communication network to which the invention is directed. In the embodiment, among the ISDN lines, INS net 64 easily introduced to general households is used. Alternatively, the ISDN line in which the number of B-channels is further increased may be used.

[0024] FIG. 3 illustrates an example of a terminal device installed in each user's home. At this point, FIG. 3 illustrates a terminal device used in the user-driven type communication network proposed by the assignee. In the following description,

an example in which the invention is applied to the user-driven type communication network is mainly described. However, obviously the invention can also be applied to the conventional communication network in which the user terminals are connected to the center into a star shape. In the conventional communication network, contents are described by replacing the seller by the center.

[0025] A user terminal device 5 is formed into a size of a video recorder, and the user terminal device 5 is a communication-specific personal computer in which functions of capturing, editing, and transmitting the image data and the sound data are added in addition to a basic function of the general-purpose personal computer. The user terminal device 5 is operated with a simple operation device such as a mouse 6 and a pad (not illustrated), the operation is performed according to an operation procedure displayed on a home television set 7 or a dedicated monitor (not illustrated), and the user terminal device 5 is devised such that people from a child to an aged person who does not have the knowledge of the personal computer easily dandle the user terminal device 5. An end of the cable 1 of INS net 64 is connected to the user terminal device 5 to construct the user-driven type communication network of FIG. 1.

[0026] In the communication network, the online payment method of the invention is processed according to a procedure of FIGS. 4 to 15. In the embodiment, the credit card company is used as the financial institution. However, the financial

institution includes financial institutions, such as a securities company and an insurance company, which possibly break into a banking business in the future in addition to the bank and the consumer loans. For the credit card company, the credit card number is used to authenticate the user. On the other hand, for the bank, the account number is used to authenticate the user. The procedure will be described below with reference to FIGS. 4 to 15. In the following case, a seller user a (hereinafter referred to as seller a) who wants to sell self-produced household account software and a buyer user b (hereinafter referred to as buyer b) who wants to buy practical household account software meet together on the host computer of the center x, and the selling and buying trade is performed between the seller a and the buyer b under the intervention of the credit card company y. It is assumed that the seller a has an ISDN number of 0112345678, the buyer b has an ISDN number of 0998765432, the center x has an ISDN number of 0111111111, and the credit card company y has an ISDN number of 0999999999.

[0027] (1) The user who becomes the seller a writes a message that "I want to sell household account software for around 11,000 yen" in a summary database having a public bulletin board function of the host computer installed in the center x. The host computer of the center x obtains the ISDN number of 0112345678 of the user who becomes the seller a in advance of the line connection (see FIG. 4).

[0028] (2) The user who becomes the buyer b writes a message that "I want to buy household account software for around 9,000

yen" in the host computer. The host computer of the center x also obtains the ISDN number of 0998765432 of the user who becomes the buyer b in advance of the line connection (see FIG. 5). Because many other users write the selling and buying messages, many seller messages and many buyer messages are registered in the summary database of the host computer. The host computer compares and matches the seller message group and the buyer message group to seek a pair of the seller message and the buyer message substantially satisfying the requests of the sell and buyer. In the embodiment, the host computer determines that the request of the seller a who presents the selling price of 11,000 yen is substantially matched with the request of the buyer a who presents the buying price of 9,000 yen, and the host computer combines the seller a and the buyer b.

[0029] (3) then the center x is in contact with the seller a in order to introduce the buyer b to the seller a (see FIG. 6). The center x automatically calls the seller a according to the previously obtained network number of 0112345678, and the introduction of the buyer b is performed in the form of the provision of information including the network number of 0998765432 of the buyer b. At this point, the seller a can see a profile of the buyer b on the screen, and the seller a who operates the terminal device does not see the network number of the buyer b although the network number of the buyer b is obtained in the terminal device of the seller a. This is because the terminal device is enough to recognize the network number of the buyer b in order that the seller a is in contact with

the buyer b and it is not necessary for the seller a to learn the network number of the buyer b. That the seller a learns the network number of the buyer b possibly becomes a trouble such as invasion of privacy.

[0030] Thus, the interested parties recognize the corresponding relation between the seller a and the buyer b. In the embodiment, the host computer performs the matching of the seller and the buyer. Occasionally the seller a or the buyer b browses the summary database to find out the other party by judgment of the seller a or the buyer b irrespective of the matching performed by the host computer. In such cases, the seller a or the buyer b makes an inquiry to transmit the network number of the other party to the terminal device to the host computer, thereby obtaining the network number of the other party. Similarly only the terminal device is informed of the network number, and the user who operates the terminal device is not informed of the network number.

[0031] A procedure of reaching the settlement of payment through the selling and buying negotiation between the seller a and the buyer b will be described below. (4) The seller a operates the terminal device to call the buyer b in order to negotiate the price (see FIG. 7). The buyer b is called by the automatic connection based on the network number of the buyer b recognized by the terminal device. At this point one of the B-channels is used as the call channel. In the drawings, the call channel is expressed by "a-ch1" when viewed from the seller a, the call channel is expressed by "b-ch1" when viewed from the buyer b.

FIG. 7 illustrates a state in which a price-reduction proposal that "how about 10,000 yen?" is made after the network number of 0112345678 of the seller a is obtained by the terminal device of the buyer b in advance of the line connection.

[0032] (5) The buyer b replies to the proposal from the seller a to perform the negotiation between the seller a and the buyer b (see FIG. 8). FIG. 8 illustrates a state in which the buyer b makes some concessions on the price-reduction proposal of the seller a to complete the deal at 10,000 yen. When the deal is completed, the buyer b provides pieces of information, such as the credit card company name used in the payment and the address, the name, and the credit card number of the buyer b, which are necessary for the credit card company to identify the buyer b. In the provided pieces of information, obviously the credit card number is not learned by the seller a, but the credit card number is obtained only by the terminal device of the seller a. These operations are not manually performed, but the operations are automatically processed only through a simple instruction on the screen by previously registering the credit card company name used in the payment and the address, name, and credit card number of the buyer b in the terminal device of the buyer b. When the ISDN number of the credit card company is provided at the same time as the credit card company name is provided, the trouble of checking the number can be eliminated when the seller a performs the line connection to the credit card company for the purpose of the credit reference. In the embodiment, many pieces of verification information such as the credit card

company name and the address, name, and credit card number of the buyer b are provided. However, actually the pieces of information can be represented by the network number of the buyer b. Because the network number is the unique number attached to each subscriber line, the network number is suitable to the information for identifying the buyer b. Additionally, in the system, because a person who operates the terminal device does not see the network number of the other party although the terminal device recognizes the network number of the other party, the network number can withstand the password-like use. In the embodiment, the buyer b specifies the credit card company in which the buyer b participates. Alternatively, a usage guide corner of the credit card company is provided in the public bulletin board of the center x, plural credit card companies are registered in the usage guide corner along with loan conditions of the credit card companies, and the buyer b can select the credit card company having the loan condition corresponding to the selling and buying trade of the buyer b from the credit card companies. Therefore, the buyer b can use the credit card company selected in the usage guide corner for the selling and buying trade with the seller a. At this point, in selecting the credit card company, obviously the credit card company and the call channel are connected to register the network number of the buyer b in the credit card company. In such cases, the network number of the buyer b acts actually as the credit card number.

[0033] (6) The seller a connects the call channel to the credit

card company y specified by the buyer b to make an inquiry of the credit reference of the buyer b while maintaining the connection state of the call channel "a-ch1" with the buyer b (see FIG. 9). The remaining B-channel "a-ch2" is used as the call channel used to conduct the communication with the credit card company y. Preferably, the line connection to the credit card company y is automatically performed according to the network number of the credit card company y obtained from the buyer b. The call channel "a-ch2" is the call channel "y-ch1" when viewed from the credit card company y. For example, the credit reference to the credit card company y is performed in the form of "please conduct credit reference of 10,000 yen of Mr. b of Network number 0998765432". Obviously, the credit card number of Mr. b is occasionally added to the network number. In such cases, the seller a does not see the network number and credit card number of Mr. b although the terminal device of the seller a recognizes the network number and credit card number of Mr. b. The credit card company y obtains the network number of 0112345678 of the seller a in advance of the line connection to the credit card company y.

[0034] (7) The credit card company y conducts the credit check mainly including the existence of the buyer user on the blacklist, the maximum limitation, and the balance, and the credit card company y informs the seller a of the result of the credit check (see FIG. 10). When the credit check is completed in several seconds, the call channel between the seller a and the credit card company y is maintained in the connected state, and the



seller a is informed of the check result. The call channel is tentatively disconnected when tens of minutes are required for the credit check, and the call channel is connected to the seller a again when the check result is provided. At this point, the call channel connected to the seller a is performed based on the previously obtained network number of 0112345678 of the seller a. When the check result that "Mr. b does not have the paying capability" is provided, or when the check result that "Mr. b has the paying capability" is provided, the seller a is notified of both the results. In the embodiment, the seller a makes the inquiry of the credit check to the credit card company y. Obviously, the buyer b may make the inquiry of the credit check of the buyer b to the credit card company y.

[0035] (8) The credit card company y notifies the buyer b of the check result while notifying the seller a of the check result (see FIG. 11). Alternatively, the credit card company y notifies the buyer b of the check result only when the check result that "the buyer b has the paying capability" is provided. The call channel is connected to the buyer b based on the network number of 0998765432 of the buyer b obtained through the seller a, and the call channel "y-ch2" is used. Because the buyer b maintains the connection state in which the buyer b is connected to the seller a through the call channel "b-ch1", the call channel connected to the credit card company y becomes the call channel "b-ch2". The credit card company y makes the inquiry to confirm the intention of the payment to the buyer b, and the buyer b replies the inquiry (see FIG. 12). FIG. 12 illustrates a state

in which the buyer b expresses the intention that "please make payment" to the credit card company y. At this point, the selling and buying trade between the seller a and the buyer b is certificated by the credit card company y that is of the neutral third party. As illustrated in FIG. 12, the line state becomes three-point connection in which the seller a, the buyer b, and the credit card company y are simultaneously connected. When a long time is required to conduct the credit reference, occasionally the call channel between the credit card company y and the seller a is tentatively disconnected. However, because generally the credit reference is completed in several seconds by computer reference, the three-point simultaneous connection is the typical connection mode of the call channel of the invention.

[0036] (9) The credit card company y that receives the payment instruction from the buyer b instantaneously makes the settlement of payment between the buyer b and the seller a, and the credit card company y notifies the seller a and the buyer b of the completion of the settlement of payment (see FIG. 13). The settlement of payment is completed by the transfer to the account specified by the seller a.

[0037] (10) The seller a transmits the "household account software" to the buyer b through the call channel (see FIG. 14). In FIG. 14, the seller a and the buyer b maintain the connection state in which the call channel is connected to the credit card company y even in the stage, because the trade is performed safer when the credit card company y attends the trade until the entire

trade is completed. However, it is not always necessary that the credit card company y attend the trade, but the call channel connected to the credit card company y may be disconnected.

[0038] (11) The buyer b transmits a message that the household account software is safely received to the seller a, and the buyer b disconnects the call channel (see FIG. 15). In the embodiment, the payment is made before the "household account software" is transmitted. Alternatively, the payment may be made after the "household account software" is transmitted.

(12) When the settlement of payment is made between the seller user and the buyer user, the settlement of payment is made between the buyer user and the financial institution. For the credit card company, the expense paid to the seller user is subtracted from the balance (committed line of credit), and the total amount of payment of the credit card in the month is paid on the due date of the next month. When the financial institution is the bank, the expense paid to the seller user is subtracted from the deposit balance.

[0039] Thus, the transmission of the "household account software" and the settlement of payment are made in real time on the network between the seller a and the buyer b. In the embodiment, the buying and selling of the "household account software" is described by way of example. Occasionally the buying and selling target becomes the material goods such as "home electric appliances". In such cases, the goods are transported by the home-delivery service.

[0040] In the proposal of the embodiment, the ISDN number is

singly used as the means for identifying the user, or the ISDN number and the credit card number or the account number are concurrently used as the means for identifying the user. According to the method of the embodiment, in order to use the ISDN number of another person, there is no way except the method for sneaking into another person's house in which the subscriber line to which the ISDN number is attached is drawn. Therefore, the ISDN number is extremely safe. However, even in this case, unfortunately the method cannot counter the corruption of one of members living together. For example, a child cannot completely be prevented from making a purchase using a parent's name. Therefore, the inventor proposes an identification method in which a moving image is used as the method for completely preventing the corruption of the members living together. Specifically the method has the following contents. First, a still image of the user is previously registered in the transaction financial institution while correlated with the credit card number or account number of the user. Any still image of the user may be used as long as the user can be identified, and usually an image in which only face is photographed is used as the still image. The still image may be registered by presenting a photograph at the beginning of the transaction with the financial institution, or the still image or one frame of the moving image may be transmitted through the communication line. Possibly the moving image is transmitted, and the financial institution makes the still image for identifying the user based on the image data. When the still image of the user

is registered in the financial institution, the financial institution makes a request to transmit the actually live image in which the face of the buyer user is taken to the buyer user every time the transaction with the financial institution is made through the line, the actually live image in which the face of the buyer user is taken and which is transmitted from the buyer user is compared to the previously registered still image used to identify the user, thereby performing the user identification. The still image may be used as the face image when the buyer user transmits the financial institution in the transaction. Preferably, the moving image is used from the viewpoint of enhancement of the user identification reliability. When the still image is used, the photograph of the buyer user is wrongfully used to take the photograph of the buyer user with a video camera, and possibly the financial institution is deceived by disguising as the authorized buyer user. On the other hand, such situations can be prevented when the moving image is used. For example, the moving image of the user is taken with a video camera connected to the user terminal device or a CCD incorporated in the user terminal device, and a simple conversation is made with the financial institution while the moving image of the user is transmitted to the financial institution, a specific motion is performed to the video camera in response to an instruction from the financial institution, for example, an instruction that "because the user identification of a guest is performed from now, please give a name to the video camera", and the moving image is transmitted to the financial

institution, whereby the financial institution performs the user identification. At this point, because the actually live moving image is transmitted in real time in response to the instruction of the financial institution, the financial institution can check the timing of the motion to easily determine whether the image is the actually live image or the reproduced image of the previously recorded image.

[0041]

[EFFECT OF THE INVENTION] In the online payment method on the communication network of the invention, the characteristic of the ISDN line having the plural independent call channels in one subscriber line and the caller number notification function is utilized, and the selling and buying trade between the seller and the buyer is certificated while the neutral financial institution intervenes, so that the contention of the effectiveness of the selling and buying negotiation, which is easily generated after the trade, can previously be prevented. Further, the settlement of payment is instantaneously made on the network, so that the actual trade of goods can be quickly processed unlike the conventional system in which the trade is delayed by several days due to the credit reference.

Additionally, the operations from the credit reference to the settlement of payment can substantially be completed in one-time call, so that the trouble and time necessary for the trade can largely be reduced. Particularly, when the selling and buying target is the software program, the shipment can be transmitted through the call channel. Therefore, business talk, the

shipment, the credit reference, and the settlement of payment can entirely be completed in one-time call.

[0042] When only the ISDN number is used as the identification information on the buyer user as described in claim 2, it is not necessary to transmit and receive the address and name of the buyer user and the credit card number on the line, and a risk that the credit card number is stolen through the line by the third party.

[0043] When the caller number capture in the terminal device of the seller user is kept confidential from the seller user by the caller number notification function of the ISDN as described in claim 3, the network number can be used like the password.

[0044] When INS net 64 including the two call channels having the transmission rate of 64 Kbit/s and the one signal channel having the transmission rate of 16 Kbit/s is used as the ISDN line as described in claim 4, INS net 64 is easily introduced to general households, and the already-existing analog telephone set can be used. Therefore, the communication network in which the ISDN line that is premise of the online payment method is used is rapidly constructed.

[0045] When the structure of the communication network to which the online payment method is applied is formed by the mode in which the host computer installed in the center mainly acts as only the site where the users meet together and the user meeting together through the center directly conduct the communication with each other while being separated from the host computer

as described in claim 5, the trouble that is easily generated in the personal-to-person trade on the communication network having the mode can previously be prevented.



FIG. 1

CENTER

FIG. 4

(NETWORK NUMBER 0111111111)

CENTER

NETWORK NUMBER 0112345678

I WANT TO SELL HOUSEHOLD ACCOUNT SOFTWARE FOR AROUND 11,000 YEN.

SELLER

(NETWORK NUMBER 0112345678)

BUYER

(NETWORK NUMBER 0998765432)

FIG. 5

MATCHING

(NETWORK NUMBER 0111111111)

CENTER

NETWORK NUMBER 0998765432

I WANT TO BUY HOUSEHOLD ACCOUNT SOFTWARE FOR AROUND 9,000 YEN.

BUYER

(NETWORK NUMBER 0998765432)

SELLER

(NETWORK NUMBER 0112345678)

FIG. 15

SELLER

(NETWORK NUMBER 0112345678)

HOUSEHOLD ACCOUNT SOFTWARE HAS BEEN RECEIVED. COMMUNICATION  
WILL BE ENDED.

BUYER

(NETWORK NUMBER 0998765432)

FIG. 6

(NETWORK NUMBER 0111111111)

CENTER

NETWORK NUMBER 0112345678

SELLER IS MATCHED WITH MR. B OF (NETWORK NUMBER 0998765432)

NETWORK NUMBER 0111111111

SELLER

(NETWORK NUMBER 0112345678)

BUYER

(NETWORK NUMBER 0998765432)

FIG. 7

SELLER

(NETWORK NUMBER 0112345678)

HOW ABOUT 10,000 YEN?

NETWORK NUMBER 0112345678

BUYER

(NETWORK NUMBER 0998765432)

FIG. 8

SELLER

(NETWORK NUMBER 0112345678)

I CAN PAY 10,000 YEN.

BUYER

(NETWORK NUMBER 0998765432)

FIG. 9

(NETWORK NUMBER 0999999999)

CREDIT CARD COMPANY

NETWORK NUMBER 0112345678

PLEASE CONDUCT CREDIT REFERENCE OF 10,000 YEN OF MR. B OF (NETWORK  
NUMBER 0998765432)

SELLER

(NETWORK NUMBER 0112345678)

BUYER

(NETWORK NUMBER 0998765432)

FIG. 10

(NETWORK NUMBER 0999999999)

CREDIT CARD COMPANY

NETWORK NUMBER 0112345678

THERE IS NO PROBLEM WITH PAYING CAPACITY OF MR. B

SELLER

(NETWORK NUMBER 0112345678)

BUYER

(NETWORK NUMBER 0998765432)

FIG. 11

(NETWORK NUMBER 0999999999)

CREDIT CARD COMPANY

SELLER

(NETWORK NUMBER 0112345678)

10,000 YEN CAN BE PAID TO MR. A?

NETWORK NUMBER 0112345678

BUYER

(NETWORK NUMBER 0998765432)

FIG. 12

(NETWORK NUMBER 0999999999)

CREDIT CARD COMPANY

SELLER

(NETWORK NUMBER 0112345678)

PLEASE MAKE PAYMENT.

NETWORK NUMBER 0112345678

BUYER

(NETWORK NUMBER 0998765432)

FIG. 13

(NETWORK NUMBER 0999999999)

CREDIT CARD COMPANY

MONEY HAS BEEN RECEIVED.

SELLER

(NETWORK NUMBER 0112345678)

PAYMENT HAS BEEN COMPLETED.

BUYER

(NETWORK NUMBER 0998765432)

FIG. 14

(NETWORK NUMBER 0999999999)

CREDIT CARD COMPANY

SELLER

(NETWORK NUMBER 0112345678)

HOUSEHOLD ACCOUNT SOFTWARE IS TRANSMITTED FROM NOW.

BUYER

(NETWORK NUMBER 0998765432)